

Four New Caddis-fly Species from Victoria (Trichoptera: Insecta)

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Introduction

The continuation and expansion of ecological studies of Victorian stream systems during the last decade rapidly increased the information on aquatic insects and their importance as water quality indicators. Although the majority are well known, occasional undescribed species are found. In this paper four such species are described, representing three families of Trichoptera.

The entire material, including the type specimens, is deposited in the Museum of Victoria collection unless indicated otherwise. Dissected and figured specimens are identified by the author's notebook number with the prefix "PT-".

Descriptions

Family CALOCIDAE

Tamasia acuta sp. n. (Figs. 1-4)

Adults dark, blackish brown with some irregular pale spots on forewing; first antennal segment long, anteriorly with large digitiform process; maxillary palpi 4-segmented in male, the two distal segments expanded, subequal, mesally covered with long pale hairs.

Male genitalia with superior appendages proportionally larger than in *variegata* Mosely; mesal incision to segment 10 reaches nearly to the base; phallus smooth, without a group of external spines near the apex.

Female abdomen with end segment bluntly rounded; the dorso-ventrally more elevated basal end of the sclerotized vaginal structure, visible only in cleared preparation separates this species from *variegata*; discoidal cell in hindwing proportionally larger, with

cross-vein r-m directly below the cross-vein closing discoidal cell.

Length of anterior wing: ♂ 6.5-8 mm; ♀ 7.5-8.5 mm.

Type material: HOLOTYPE ♂; Victoria, Matlock Creek off Thomson Portal road, 14 km W of Aberfeldy, 10 Feb. 1977, A. Calder; paratypes 20♂ 20♀ collected with holotype (specimen PT-1177 ♂ figured); paratypes 5♂ 5♀ also deposited in the Australian National Insect Collection, Canberra.

Other material examined: Victoria — Yea River nr Glenburn; Snobs Creek Falls; Jordan River nr Jericho; Toorong River Falls nr Noojec; Kinglake National Park; Murrindindi River-Falls Creek junction; Cumberland Falls, SE of Marysville; Ovens River nr Porepunkah; Howqua River nr Timber-top; Errinundra River; Cann River nr Noorinbee. New South Wales — Khancoban.

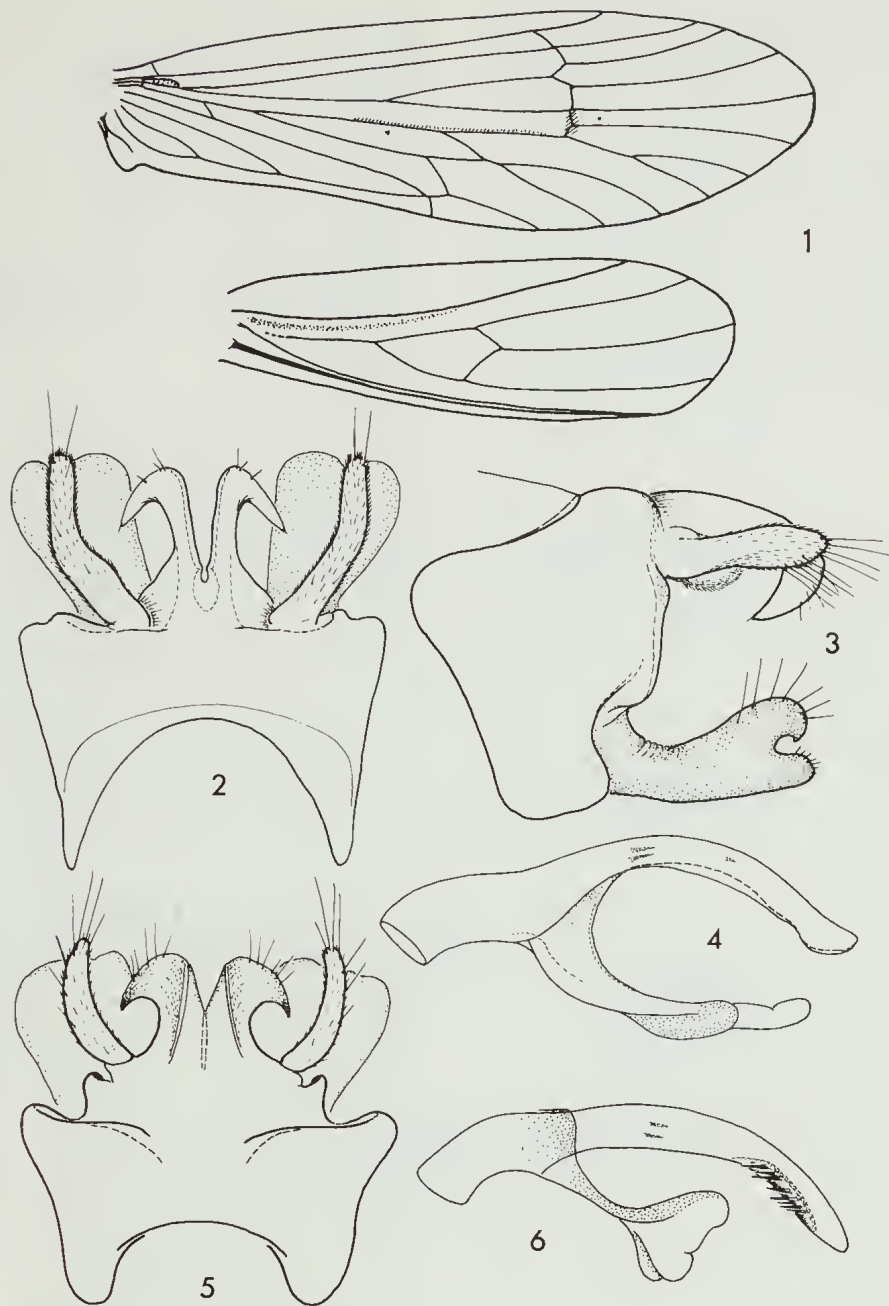
Distribution: Central and eastern Victoria; SE-New South Wales.

This species is very similar to *Tamasia variegata* Mosely, originally described from Tasmania, but later also recorded from Victoria (Neboiss, 1977). Large numbers of specimens from numerous Victorian localities were examined confirming that besides *variegata* another quite distinct species is present and confused with it. These two species — *variegata* and *acuta* are separated by the differences in male maxillary palps, structures in male genitalia and some differences in wing venation. Separation of females is somewhat more difficult.

Tamasia variegata Mosely (Figs. 5, 6)

The separation of this species is possible by the characteristic shape of male maxillary palpi (Mosely and Kimmins, 1953), details of male genitalia (figs 5, 6)

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Figs. 1-4. *Tamasia acuta* sp. n. male; 1, wing venation; 2, genitalia dorsal; 3, genitalia lateral (phallus omitted); 4, phallus lateral.
 Figs. 5, 6. *Tamasia variegata* Mosely, male; 5, genitalia dorsal; 6, phallus lateral.

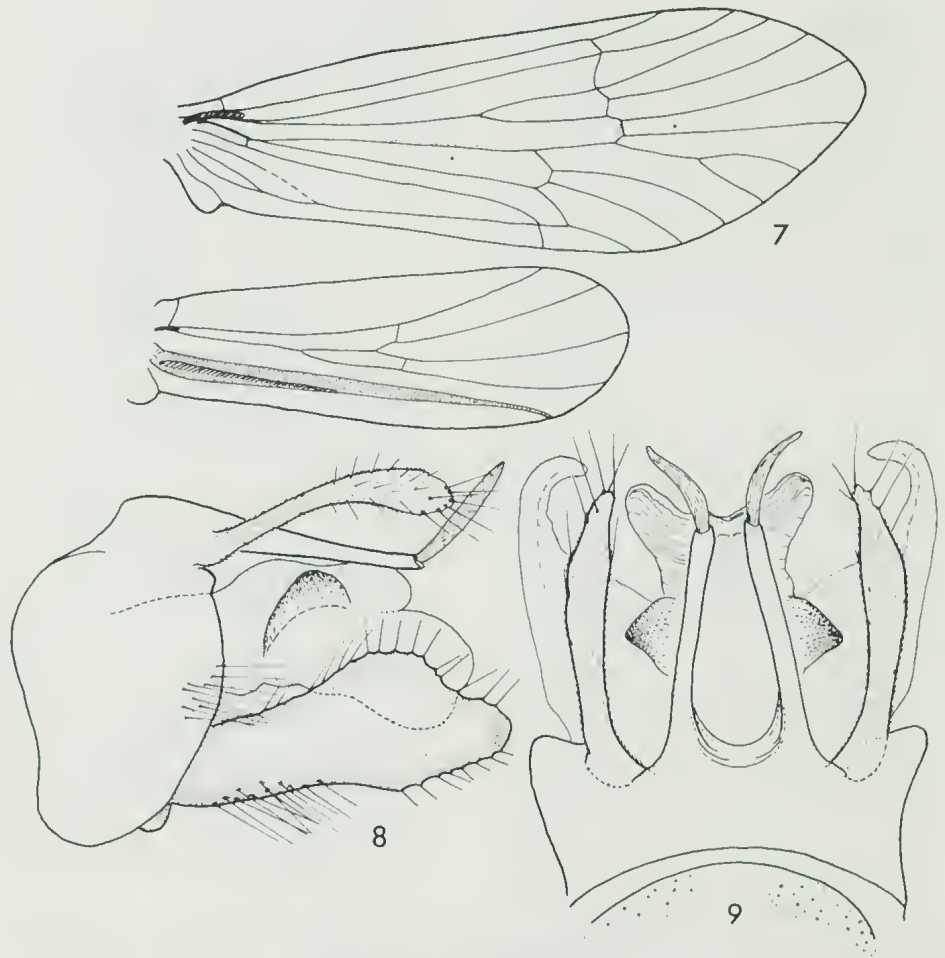
and wing venation; the separation of females is possible from hindwing venation, with small discoidal cell and distally situated cross-vein r-m; the sclerotised internal vaginal structure only slightly elevated at basal end.

Length of anterior wing: ♂ 6.5-8 mm; ♀ 7.5-9 mm.

Type material: TYPE ♂, Tasmania, Mienna, Great Lake, Dec. 1930, C. Parker (British Museum Nat. Hist. London).

Distribution: Tasmania — widespread; Victoria — Gellibrand River and

tributaries; Elliott River nr Apollo Bay; Carisbrook Falls nr Apollo Bay; Mt. Langi-ghiran nr Ararat; Yea River nr Glenburn; Flowerdale; Kinglake National Park; Little River nr Taggerty; Delatite River; Strathbogie; Tanjil River nr Moe; Upper Buckland River; Eucumbene River nr Kiewa; Albert River nr Hiawata; Flynns Creek nr Callignee; Middle Creek nr Boolara. New South Wales — Upper Allyn River nr Eccleston; Styx River nr Ebor. Queensland (SE) — Browns Falls nr Killarney.



Figs. 7-9. *Tamasia furcilla* sp. n. male; 7, wing venation; 8, genitalia lateral; 9, genitalia dorsal.

Tamasia furcilla sp. n. (Figs. 7-9)

Adults dark brown to blackish, in the middle of forewing basal to anastomosis a pair of pale spots, the anterior one on costal margin triangular or somewhat oval, the posterior one somewhat squarish; some small indistinct spots obliquely across the wing at anastomosis with one more distinct spot near stigma. Maxillary palpi in male with two apical segments elongate; first antennal segment long, with anterior digitiform process as well as with postero-mesally directed process near base and a shorter one at middle.

Male genitalia with superior appendages long, expanded shortly before tapering apex; tergite 10 terminates into a pair of two-segmented slender processes; inferior appendages expanded at apical third, tips curved inward; phallus with a pair of sclerotized lateral flanges.

Female similar to *acuta*, but with distinct wing pattern, similar to that described in male.

Length of anterior wing: ♂ 7-7.5 mm; ♀ 8 mm.

Type material: HOLOTYPE ♂: Victoria, Mt Buller Road, White bridge, 20 Dec. 1972, P. Zwick; paratypes 3♂ 1

collected with holotype; genitalia preparation PT-1190♂figured. Habitat: small, cool fast flowing mountain creek.

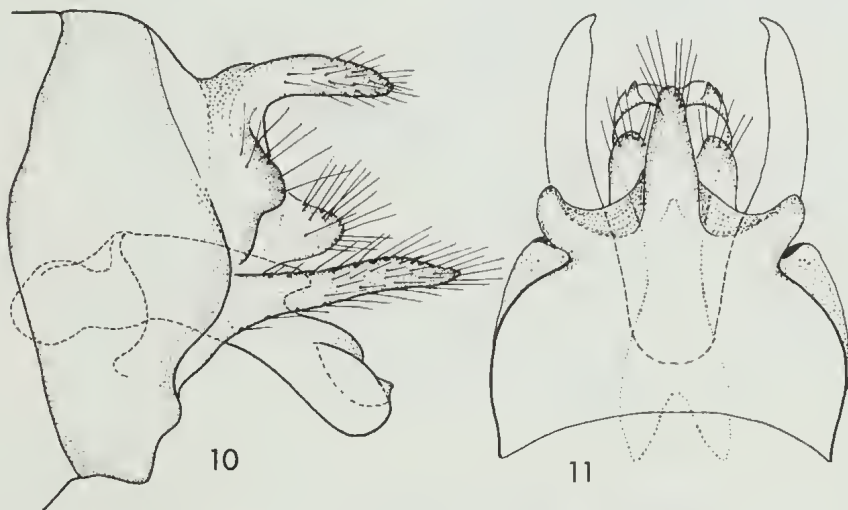
Distribution: Central Victoria.

Family KOKIRIIDAE

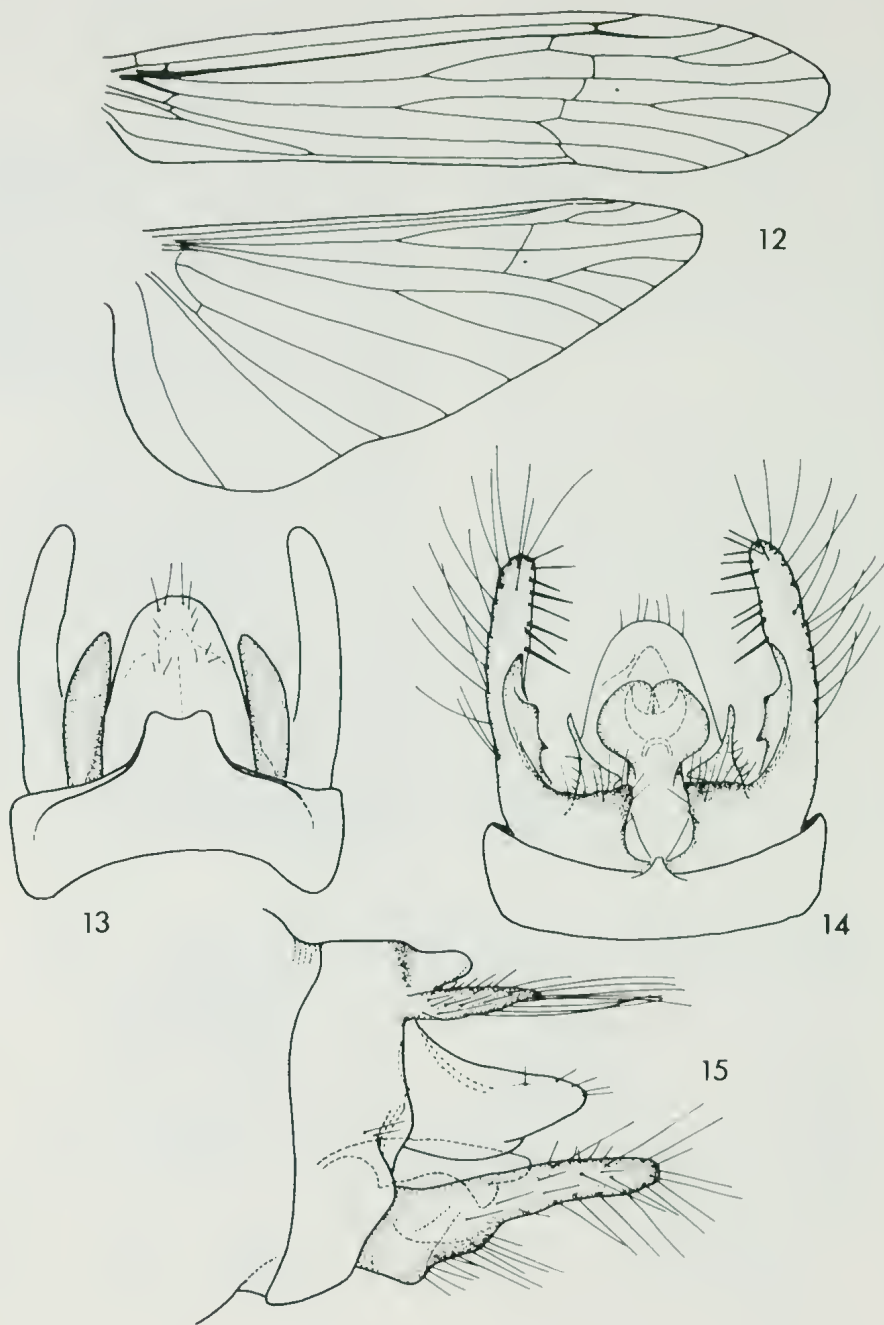
The only location where this family has been found on the Australian continent is a small restricted area at Tanjil-Latrobe River junction, Victoria (Neboiss, 1974); all other records of the family are from South-west Tasmania (Neboiss, 1977). The discovery of a second species in Victoria is of particular interest, because it represents a Tasmanian genus *Taskiria* Neboiss and the locality is in the Otway ranges.

Taskiria otwayensis sp. n. (Figs. 10, 11)

Head with two pairs of setiferous warts; frons slightly produced, bluntly rounded, covered with coarse upcurved hairs; labial palpi 3-segmented, positioned horizontally just below the head, directed anteriorly, apical segment thickened; maxillary palpi 3-segmented, arising from apex of the extended mouth parts, terminal segment slightly longer than segment 2. Wings densely covered with brownish pubescence; thyridial cell longer than discoidal cell.



Figs. 10, 11. *Taskiria otwayensis* sp. n. male; 10, genitalia lateral; 11, genitalia dorsal.



Figs. 12-15. *Notalina gungarra* sp. n. male; 12, wing venation; 13, genitalia dorsal; 14, genitalia ventral; 15, genitalia lateral.

Male genitalia with tergite 10 digitiform, slightly downturned apically, lateral lobes short; inferior appendages rather slender, apices pointed, curved inwards; phallus robust, in lateral view with short dorsal projection, curved downward, apex rounded.

Female unknown.

Length of anterior wing: ♂ 11 mm.

Type material: HOLOTYPE ♂: Victoria, Charley's Creek, 5km S of Gellibrand, "VICTREE" pine plantation, 29 Jan. 1982, A. Neboiss (at MV-light); genitalia preparation PT-1087 ♂ figured. The stream is small, moderately fast flowing, the upper section partly situated in native bushland, followed by pine plantation, mostly overgrown by blackberries and heavily silted bed.

Distribution: Victoria (Otway ranges).

Family LEPTOCERIDAE

Notalina gungarra sp. n. (Figs. 12-15)

This species could not be accommodated in either *Notoperata* or *Notalina* (Neboiss, 1977) without certain objections. Both the wing venation and the male genitalie structures show characters of both genera.

Most wing characters are similar to those found in *Notoperata* and include the short thyridial cell in the forewing; hindwing with distinct fork 1 and short discoidal cell; yet the basally directed oblique angle of cross-vein closing discoidal cell and cross-vein r-m, as well as their separation from the base of fork 3 in the hindwing are typical of *Notalina*.

In male genitalia the shape of tergite 10 in lateral view is more like that found in *Notoperata*, but the single segmented inferior appendages with mesally projec-

ting, bipointed ridge is clearly resembling *Notalina*. The species is thus provisionally placed in the genus *Notalina*.

Male genitalia with centre of distal margin of tergite 9 produced into a distinct projection, somewhat angular in dorsal view; tergite 10 elongate oval, without mesal cleft, depressed in lateral view; superior appendages shorter than tergite 10, tapered apically; inferior appendages with angular projection at base; inner margin with short, bluntly bipointed ridge; mesally at the base arises apically tapered lobe; phallus in ventral view straight, apically expanded into rounded knob.

Length of anterior wing: ♂ 11.5-12 mm.

Female unknown.

Type material: HOLOTYPE ♂: Victoria, Wongungarra and Crooked River junction, 9 Feb. 1981, J. Blyth; paratype 1 ♂ collected with holotype; genitalia preparation PT-737 ♂ figured.

Distribution: Victoria — East Gippsland.

Acknowledgements

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